

We claim:

1. A method for making a forming tool with a cooling system, which is thermally stressed during operation, comprising the steps of:

a) determining shape and position of interior spaces in a forming tool, the interior spaces consisting of cooling ducts or cooling chambers (8) of the cooling system for the forming tool, according to required location-dependent cooling performance of the cooling system;

b) providing a vacuum-tight sealed capsule (4) containing at least two materials (6,7) and providing predetermined bounding surfaces (5) between the at least two materials for formation of the interior spaces in the at least two materials, wherein one of the at least two materials is a heat-resistant filling material (6) that is soluble in a liquid;

c) subjecting the vacuum-tight sealed capsule (4) to a hot-isostatic-pressing process to form a combined body within the capsule (4), in which said filling material (6) is incorporated;

d) working the combined body to form a required predetermined outer surface of the forming tool; and

e) removing the filling material (6) from the combined body to provide said finished forming tool with said interior spaces forming the cooling system.

2. The method as defined in claim 1, wherein said filling material (6) is a heat-resistant salt that is soluble in a solvent.

3. The method as defined in claim 2, wherein said solvent is water.

4. The method as defined in claim 2, wherein said salt is potassium sulfate.

5. The method as defined in claim 2, further comprising pre-compressing or compacting said salt in said capsule (4) prior to said subjecting to said hot-isostatic pressing process.

6. The method as defined in claim 1, wherein a second of said at least two materials comprises a metallic solid, a ceramic solid or a powder.

7. A forming tool provided with at least one cooling duct, said forming tool being formed by a method comprising making a combined body from a hot-isostatic-pressing process and providing a hollow interior space forming said at least one cooling duct in the combined body.

8. A forming tool with a cooling system made by a method comprising the steps of:

a) determining shape and position of interior spaces in a forming tool, the interior spaces consisting of cooling ducts or cooling chambers (8) of the cooling

system for the forming tool, according to required location-dependent cooling performance of the cooling system;

b) providing a vacuum-tight sealed capsule (4) containing at least two materials (6,7) and providing predetermined bounding surfaces (5) between the at least two materials to form the interior spaces in the at least two materials, wherein one of the at least two materials is a heat-resistant filling material (6) that is soluble in a liquid;

c) subjecting the vacuum-tight sealed capsule to a hot-isostatic-pressing process to form a combined body within the capsule (4), in which said filling material (6) is incorporated;

d) working the combined body to form a required predetermined outer surface of the forming tool; and

e) removing the filling material (6) from the combined body to provide said finished forming tool with said interior spaces forming the cooling system.